



553 056

(43) International Publication Date  
3 February 2005 (03.02.2005)

PCT

(10) International Publication Number  
**WO 2005/010364 A1**

(51) International Patent Classification<sup>7</sup>: **F04B 35/04**

(21) International Application Number:  
PCT/KR2003/001496

(22) International Filing Date: 25 July 2003 (25.07.2003)

(25) Filing Language: English

(26) Publication Language: English

(71) Applicant (for all designated States except US): **LG ELECTRONICS INC.** [KR/KR]; 20, Yoido-dong, Youngdungpo-gu, Seoul 641-411 (KR).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **CHUNG, Woo Suk** [KR/KR]; Pooroonmaeol 301-501, Sunae1-dong, Bundang-gu, Sungnam 463-020 (KR). **CHOI, Se Heon** [KR/KR]; HangangGukdong Apt., 108-401 Poongnap2-dong, Songpa-gu, Seoul 138-781 (KR). **HWANG, Dong Kon** [KR/KR]; Sinsigagi Apt., 116-603, Mok6-dong, Yangchun-gu, Seoul 158-056 (KR).

(74) Agent: **HAW, Yong Noke**; 8th Fl. Songchon Bldg., 642-15 Yoksam-dong, Kangnam-gu, Seoul 135-080 (KR).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

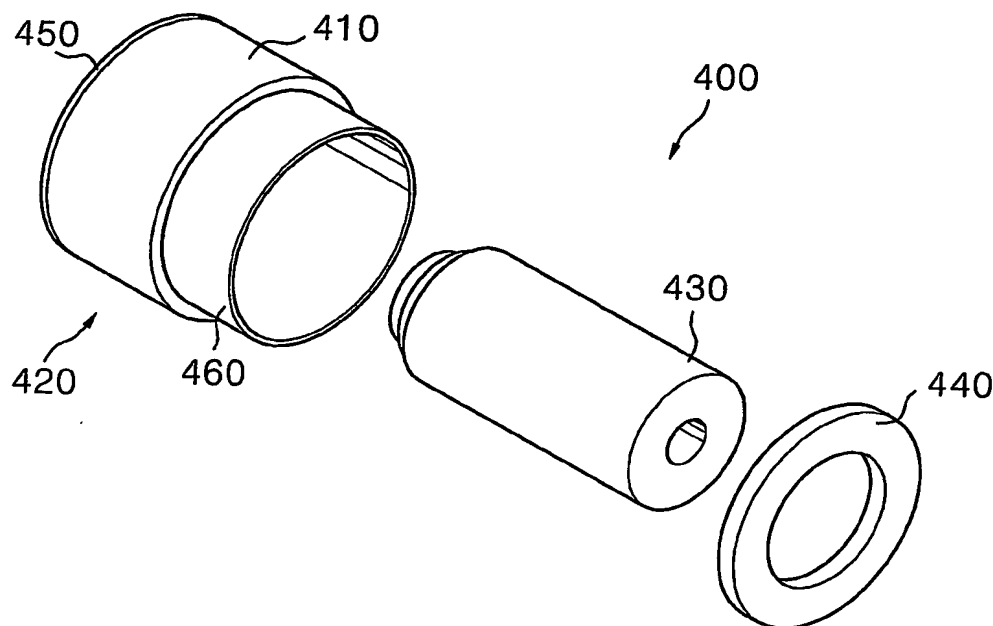
(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

[Continued on next page]

(54) Title: **PISTON ASSEMBLY OF COOLER**



(57) Abstract: There is provided a piston assembly configured to include: a hollow cylinder-shaped magnet sleeve having a magnet(s) bonded on external circumferential surface thereof; a hollow cylinder-shaped piston inserted into a hollow space of the magnet sleeve; and a hollow disc-shaped ring fixed to the piston by a shrink fitting process, and welded to the magnet sleeve which is made of the same material as the ring so as to obtain a configuration of the piston assembly in which the magnet sleeve and the piston are coupled to each other.

WO 2005/010364 A1